

## ABSTRACT OF THE DISCLOSURE

In one embodiment of this invention, identical communicating node elements are constructed and placed throughout a power delivery network. Each of these node elements supplies features and options that facilitate peer-to-peer communications, data and service aggregation, propagated interfaces and distributed computational power. The network of interacting node elements, built with a common architecture, gives the power delivery network advanced capabilities for utilities and customers. These advanced capabilities include self-healing, highly secure communications, real-time interactions between any devices, and so on.